

SPECIFICATION

Please amend paragraph [0007] of the specification as follows to correct language used with respect to the program counter and execution of a program.

[0007] The invention thus protects the processor from inadvertent data errors, such as a corrupted speculative write to the register file. At the end of each pipeline, often identified by those skilled in the art as the “write-back” stage, the register file is architected; any delay in the write-back stage increases the bypass logic. Accordingly, the invention preferably architects the register file in normal write-back operations; but a backup copy of the affected register is made within the buffer in case of data errors. In one aspect, checkpointing occurs after each fixed number of cycles; a larger buffer increases the time slice available for recovery and between checkpoints. Prior to each register write, the prior value is read and stored within the buffer. At each checkpoint, therefore, the older data may be rewritten to the register file so that the program may ~~backup~~ return to a prior checkpoint location (e.g., via the program counter) to re-execute the instructions. The invention thus circumvents errors caused by random cosmic rays or alpha particles within processor logic.